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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
CONNOLLY, MARK A	

ART UNIT	PAPER NUMBER
2115	4

DATE MAILED: 06/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/876,291	TOBIAS ET AL.	
	Examiner	Art Unit	
	Mark Connolly	2115	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 June 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2&3*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-28 have been presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 4 and 5 recite the limitation "the CPU utilization." There is insufficient antecedent basis for this limitation in the claim. For examining purposes, the above claims have been interpreted as "the utilization of the integrated circuit."

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim1-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hetzler US Pat No 5954820 in view of Odaohhara et al [Oda] US Pat No 6574740.

6. Referring to claim 1, Hetzler teaches the invention substantially including:

a. entering a predetermined performance state as a next performance state, skipping any performance states between a current performance state and the predetermined performance state [Fig. 8, TABLE 2 (col. 7), col. 12 line 64 – col. 13 line 4 and col. 18 lines 37-45]. In summary, when looking at Fig. 8, the system will directly enter the active state P0 from either IDLE state P1 or the power-save mode P2 without entering any intermediate power states.

Although Hetzler teaches entering a predetermined performance state and skipping performance states between the current and predetermined performance states, it is not explicitly taught how the system determines when to enter the predetermined state. Rather, the Hetzler system only states that the system anticipates when to enter the predetermined state and is not specific about how it is determined that more performance is required [Abstract].

Oda explicitly teaches:

b. determining utilization of the integrated circuit [fig. 4 and col. 10 lines 9-25].

c. comparing the determined utilization to a threshold value [fig. 4 and col. 10 lines 9-37].

d. entering a different performance state if it is determined that the utilization is above a threshold utilization value [fig. 4 and col. 10 lines 9-37].

In summary, Oda teaches comparing utilization to a threshold value in order to determine when additional performance is required. When the Hetzler system anticipates an increase in the performance state, there must be some type of means to alert the system that more performance is required. If the utilization of the system were not going to increase then it would be a waste to increase the performance state of the system. On the other hand, as taught by Oda, when it is determined that more performance is required by the system (i.e. when the system utilization exceeds a threshold value) then the system is assured that an increase in system performance would not be wasteful. Therefore it would have been obvious to include the teachings of Oda into the Hetzler system because Oda teaches a means to determine when it is necessary to increase the performance of the system without being wasteful.

Finally, even though Hetzler primarily teaches entering different performance regarding a CD-ROM, Hetzler explicitly teaches that the same concepts can be applied to "*any* component of a mobile computer" [*emphesis added* col. 25 lines 9-10]. Any component of a mobile computer is interpreted as comprising an integrated circuit.

7. Referring to claim 2, Hetzler teaches entering a maximum performance state. [TABLE 2 (col. 7) and fig. 8 and col. 18 lines 37-38]. The SEEK/READ state P0 is the maximum performance state according to TABLE 2.

8. Referring to claim 3, it is obvious by design choice that the predetermined performance state could be a near maximum performance state. It is well known that integrated circuits can operate at a plurality of different power states and it would have been obvious to operate at a near maximum performance state because it would provide increased performance while still providing some power savings compared to a maximum performance state.

9. Referring to claims 4 and 5,Oda teaches comparing the utilization to a second threshold and entering a lower performance state as the next performance state if the utilization is below the second threshold [fig. 4].

10. Referring to claims 6 and 7, it is well known in the art that the clock frequency and voltage of a system determines its performance and power consumption. It is obvious for the Hetzler-Oda system to adjust its clock frequency and/or voltage when entering different performance states because, as stated above, it is well known that adjusting those parameters adjusts the performance and power consumption of a system.

11. Referring to claim 8, it is obvious that utilization is determined periodically otherwise the system would never be able to adjust its performance by entering any other power states.

12. Referring to claim 9, any component of a mobile computer is interpreted as comprising a central processing unit.

13. Referring to claim 10, this is rejected on the same basis as set forth hereinabove. Hetzler and Oda teach the method and therefore teach the system performing the method. Furthermore, Hetzler teaches that the system enters the same performance state for all performance increases [fig. 8]. It can be seen that all performance increases result in the system entering performance state P0.

14. Referring to claim 11, this is rejected on the same basis as set forth hereinabove. Hetzler and Oda teach the method and therefore teach the system performing the method. Furthermore, Hetzler teaches that the method can be performed by microcode which is interpreted as instruction sequences [col. 25 lines 51-55].

15. Referring to claims 12-22, these are rejected on the same basis as set forth hereinabove. Hetzler and Oda teach the method and therefore teach the system performing the method.

16. Referring to claims 23 and 25-28, these are rejected on the same basis as set forth hereinabove. Hetzler and Oda teach that the system can be realized using microcode stored on a computer readable medium [col. 25 lines 51-58].

17. Referring to claim 24, Hetzler teaches that the computer readable medium can comprise conventional removable media [col. 25 lines 55-58]. Hetzler also teaches that the microcode can be provided by controllers associated with applicable components [col. 25 lines 54-55]. It is interpreted that the computer readable medium could also comprise a network, wireline, wireless or other communications medium because Hetzler teaches that the microcode can be provided

through controllers associated with different components [col. 25 lines 54-55]. The components are interpreted as comprising an interface means with the different communication mediums.

Conclusion

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Connolly whose telephone number is (703) 305-7849. The examiner can normally be reached on M-F 8AM-5PM (except every first Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas C Lee can be reached on (703) 305-9717. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Connolly
Examiner
Art Unit 2115

mc
June 14, 2004

THOMAS LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100